

## Chapter 8 Solutions, Acids, and Bases

**Section 8.2 Solubility and Concentration****(pages 235–239)**

*This section explains solubility, the factors affecting solubility, and different ways of expressing the concentration of a solution.*

**Reading Strategy (page 235)**

**Previewing** Before you read the section, rewrite the topic headings as *how*, *why*, and *what* questions. As you read, write an answer to each question. For more information on this reading strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Question	Answer
What is solubility?	
	Solvent, temperature, and pressure

**Solubility (pages 235–237)**

1. Define solubility. \_\_\_\_\_  
\_\_\_\_\_
2. List the following solutes in order from most soluble to least soluble in water: table salt, baking soda, table sugar.
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
3. Circle the letters that identify how solutions can be classified based on solubility.
  - a. unsaturated
  - b. desaturated
  - c. saturated
  - d. supersaturated
4. Describe a saturated solution. \_\_\_\_\_  
\_\_\_\_\_
5. A solution that has less than the maximum amount of solute that can be dissolved is called a(n) \_\_\_\_\_.
6. Is the following sentence true or false? It is impossible for a solution to contain more solute than the solvent can hold at a given temperature. \_\_\_\_\_

**Chapter 8 Solutions, Acids, and Bases****Factors Affecting Solubility (page 237)**

7. Circle the letters of factors that affect the solubility of a solute.
- a. polarity of the solvent
  - b. amount of solvent
  - c. pressure
  - d. temperature
8. What is a common guideline for predicting solubility?  
\_\_\_\_\_
9. Describe how soap cleans grease off your hands. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
10. Is the following statement true or false? In general, the solubility of solids increases as the solvent temperature increases.  
\_\_\_\_\_
11. In general, the solubility of gases decreases as the solvent temperature \_\_\_\_\_.
12. In general, the solubility of a gas increases as pressure \_\_\_\_\_.

**Concentration of Solutions (pages 238–239)**

13. What does the concentration of a solution refer to? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
14. Circle the letters that identify ways to express the concentration of a solution.
- a. density
  - b. percent by volume
  - c. percent by mass
  - d. molarity
15. Complete the equation.  
Percent by volume =  
\_\_\_\_\_
16. Write the equation used to calculate percent by mass.  
\_\_\_\_\_
17. Is this sentence true or false? Molarity is the number of moles of a solvent per liter of solution. \_\_\_\_\_
18. How many grams of NaCl are needed to make 1.00 liter of a 3.00 M NaCl solution? \_\_\_\_\_